APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,663	11/14/2001	Steven D. Swaine	091-0126	8498

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EXAMINER
SAADAT, CAMERON

ART UNIT	PAPER NUMBER
3713	

DATE MAILED: 01/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

HCT

Office Action Summary	Application No.	Applicant(s)
	09/992,663	SWAINE ET AL.
	Examiner	Art Unit
	Cameron Saadat	3713

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on <u>11/14/01</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-22</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-22</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Regarding claims 1 and 12, it is the examiner's recommendation that the clarity and

precision of the language can be improved by the deletion of the phrase "such as" in the claim

language.

Regarding claim 2, the phrase "including a system scan converting", the claim language

is unclear, and it would seem to be clear if recited as -- including a system for scan converting--.

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

Claims 16-19 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention. The method claims 16-19 are inaccurately dependent on claim 8, which discloses

a system.   Appropriate correction is required.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

4.   **Claims 1-3, 5-9, 11, 15, and 20-22 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over Lippert et al. (U.S. Patent Application Publication 2002/0024495 A1;

hereinafter Lippert) in view of Marshall (U.S. Patent Application 2002/0130982 A1).

Regarding claims 1 and 7, Lippert discloses a training system for teaching the use of

night vision goggles comprising: a system 1166 generating high fidelity, infrared, terrain

simulation images, and a system 1164 in communication with the image generation system,

extracting components of the image and emitting infrared light at a corresponding intensity level

(P. 6, Paragraph 0068; Fig.12). It is not explicitly disclosed that a sufficient irradiance is

provided to increase the dynamic range to simulate bright lights. However, Marshall discloses a

training system for teaching the use of night vision goggles, wherein a large dynamic range is

provided (P. 2, Paragraph 0025). At the time of the invention, it would have been obvious to a

person of ordinary skill in the art to modify the image generation system described in Lippert by

providing a large dynamic range, in light of the teachings of Marshall, thereby allowing

simulation of images that are relatively bright to very dark.

Regarding claim 15, Lippert discloses a training method for teaching the use of night

vision goggles comprising: a system 1166 generating high fidelity, infrared, terrain simulation

images, and a system 1164 in communication with the image generation system, extracting components of the image and emitting infrared light at a corresponding intensity level (P. 6, Paragraph 0068; Fig.12). Lippert further discloses a means 1154 for scan converting the generated image to video for display through the simulated goggles (See Figs. 12 and 5). It is not explicitly disclosed that a sufficient irradiance is provided to increase the dynamic range to simulate the entire range of natural nighttime terrain irradiance. However. Marshall discloses a training system for teaching the use of night vision goggles, wherein a large dynamic range is provided (P. 2, Paragraph 0025). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the image generation system described in Lippert by providing a large dynamic range, in light of the teachings of Marshall, thereby allowing simulation of images that are relatively bright to very dark.

Regarding claims 2 and 8, Lippert discloses a training system including a system 1154 for scan converting the resulting image generated to video for display on a pair of simulated goggles (P. 3, Paragraph 0039, 0040; Fig. 5).

Regarding claim 3 and 9, Lippert discloses a training system including a system 1154 for scan converting the resulting image generated to video and projecting the image on a display screen 1156 (See Fig. 12).

Regarding claims 5, 11, and 20, Lippert discloses a training system and method including a system for providing a stable image regardless of the simulated night vision goggle line of sight (P. 4, Paragraphs 0051, 0052).

Regarding claims 6, and 21-22, Lippert discloses a training system wherein signal generation and communication systems are provided in a light tight package to maintain contrast (P. 1, Paragraph 0014).

5.   **Claims 4, 10, 12-14, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lippert et al. (U.S. Patent Application Publication 2002/0024495 A1; hereinafter Lippert) in view of Marshall (U.S. Patent Application 2002/0130982 A1), further in view of DeLeon (U.S. Patent No. 6,301,050).**

Regarding claims 4,10, and 16, Lippert discloses a system wherein the communication system includes a system for allocating three video signals at different intensities (P. 6, Paragraph 0071). Although a specific bit value of the video signals is not disclosed, it is the examiner's position that it is old and well known to provide a video signal with an increased number of bits in order to provide increased combinations in various proportions to obtain any color in the visible spectrum. Additionally, Lippert does not explicitly describe the intensities as low, medium, and high. However, Marshall discloses a training system including a system for allocating three video signals representing scene elements of low, medium, and high light intensity (P. 2, Paragraph 0018). In view of Marshall, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the video signals described in Lippert, by providing signals representing elements of low, medium, and high light intensity in order to provide a large dynamic range of bright to dark images to provide an accurate simulation of the night vision goggles.

Furthermore, although Lippert briefly discloses the use of a video camera for generation of images (P. 7, Paragraph 0076), neither Lippert nor Marshall explicitly discloses the use of a

video camera for scan converting. However, Deleon teaches an image enhancement system wherein IR signals are scan converted to visible signals using a video camera (column 8, lines 57-67). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the training system as described in the combination of Lippert and Marshall, by using a video camera for scan converting, in light of the teachings of Deleon. The motivation for doing so would have been to provide a more efficient and high-speed means of converting IR signals to visible signals, and to further provide a true video signal.

Regarding claim 12, Lippert discloses a training system for teaching the use of night vision goggles comprising: a system 1166 generating high fidelity, infrared, terrain simulation images, and a system 1164 in communication with the image generation system, extracting components of the image and emitting infrared light at a corresponding intensity level (P. 6, Paragraph 0068; Fig.12). Lippert further discloses a training system and method including a system for providing a stable image regardless of the simulated night vision goggle line of sight (P. 4, Paragraphs 0051, 0052); a training system wherein signal generation and communication systems are provided in a light tight package to maintain contrast (P. 1, Paragraph 0014). It is not explicitly disclosed that a sufficient irradiance is provided to increase the dynamic range to simulate bright lights. However, Marshall discloses a training system for teaching the use of night vision goggles, wherein a large dynamic range is provided (P. 2, Paragraph 0025). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the image generation system described in Lippert by providing a large dynamic range, in light of the teachings of Marshall, thereby allowing simulation of images that are relatively bright to very dark.

Furthermore, as per claim 12, Lippert discloses a system wherein the communication system includes a system for allocating three video signals at different intensities (P. 6, Paragraph 0071). Although a specific bit value of the video signals is not disclosed, it is the examiner's position that it is old and well known to provide a video signal with an increased number of bits in order to provide increased combinations in various proportions to obtain any color in the visible spectrum. Also, Lippert does not explicitly describe the intensities as low, medium, and high. However, Marshall discloses a training system including a system for allocating three video signals representing scene elements of low, medium, and high light intensity (P. 2, Paragraph 0018). In view of Marshall, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the video signals described in Lippert, by providing signals representing elements of low, medium, and high light intensity in order to provide a large dynamic range of bright to dark images to provide an accurate simulation of the night vision goggles. Additionally, although Lippert briefly discloses the use of a video camera for generation of images (P. 7, Paragraph 0076), neither Lippert nor Marshall explicitly discloses the use of a video camera for scan converting. However, Deleon teaches an image enhancement system wherein IR signals are scan converted to visible signals using a video camera (column 8, lines 57-67). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the training system as described in the combination of Lippert and Marshall, by using a video camera for scan converting, in light of the teachings of Deleon. The motivation for doing so would have been to provide a more efficient and high-speed means of converting IR signals to visible signals, and to further provide a true video signal.

Regarding claim 13, Lippert discloses a training system including a system 1154 for scan converting the resulting image generated to video for display on a pair of simulated goggles (P. 3, Paragraph 0039, 0040; Fig. 5).

Regarding claim 14, Lippert discloses a training system including a system 1154 for scan converting the resulting image generated to video and projecting the image on a display screen 1156 (See Fig. 12).

Regarding claim 17, Lippert discloses a training system and method including a system for providing a stable image regardless of the simulated night vision goggle line of sight (P. 4, Paragraphs 0051, 0052).

Regarding claims 18 and 19, Lippert discloses a training system wherein signal generation and communication systems are provided in a light tight package to maintain contrast (P. 1, Paragraph 0014).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Nestorovic et al. (U.S. Patent Application Publication 2002/0075210 A1) – discloses a night vision goggle simulation system.

- Wynn (U.S. Patent Application Publication 2002/0087296 A1) – discloses a simulation system wherein a stable image is provided based on a helmet mounted position sensor.

- Witt, III (U.S. Patent No. 5,413,483) – discloses a night vision goggle simulator contained within the goggles.

o   Streid (U.S. Patent No. 6,196,845) – discloses a system for simulating

night vision goggles.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Cameron Saadat whose telephone number is 703-305-5490. The

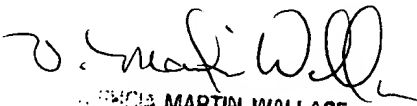examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Valencia Martin-Wallace can be reached on 703-308-4119. The fax phone numbers

for the organization where this application or proceeding is assigned are 703-872-9302 for

regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703-308-1148.

CS
January 22, 2003

VALENCIA MARTIN-WALLACE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700